

## CLAIMS

The invention claimed is

1. A multi-function illuminating display device for a motor vehicle, including a housing, first illuminating means on said housing to display an inverse function engine power indication combined with a brake light signal means, and second illuminating means on said housing to display left and right directional turn signal means combined with left and right park light display means, wherein:
  - a. said housing is equipped with a translucent combination lens and cover over an illuminating surface of said housing;
  - b. the first illuminating means includes a horizontal row of single-color red light emitting diodes, (LEDs);
  - c. the second illuminating means includes a horizontal row of dual-color red/amber LEDs;
  - d. the engine power indication has an associated electronic circuit that enables manual adjustment of electrical parameters that define the high and low end limits of an engine power indication operating range within which the red LEDs operate as the engine power indication;
  - e. the red LEDs when operating as the engine power indication do not operate above the manually adjusted high end limit, or below the manually adjusted low end limit, of the engine power indication operating range, and are sequentially activated and deactivated in inverse proportion to the engine power within the operating range;
  - f. the engine power indication is turned off by the associated electronic circuit during input to the associated electronic circuit of a vehicle brake light signal;
  - g. a vehicle brake light signal input to the associated electronic circuit is displayed by illuminating the horizontal row of red LEDs;
  - h. the engine power indication is turned off by the associated electronic circuit during input to the associated electronic circuit of an electrical signal designating a left or right side vehicle turn;

Joseph E. Currie (603) 456-2428 10 of 14

- i. the engine power indication is turned off by the associated electronic circuit during the time a vehicle speed control system is turned on and a hold speed is selected in use of the vehicle speed control system;
- j. the horizontal row of red LEDs when operating as the engine power indication display decreasing engine power by illuminating center of row LEDs at minimal illumination intensity followed by illumination of corresponding pairs of successive adjacent LEDs at noticeable increasing levels of illumination intensity until left and right end of horizontal row LEDs are illuminated at nominal brake light intensity;
- k. activating the left and a right directional turn signal means comprises illuminating the left half and the right half, respectively, of the horizontal row of dual color red/amber LEDs;
- l. the number of red/amber LEDs that illuminate to indicate a signaled left or right turn progressively increases starting with the center of the horizontal row of red/amber LEDs and progressing toward the end of the horizontal row of red/amber LEDs corresponding to the direction of the signaled turn, all such LEDs then being extinguished before the sequence is repeated;
- m. the horizontal row of red/amber LEDs when operating as the turn signal means are illuminated at a nominal brake light intensity; and
- n. in the absence of a left or right directional turn signal indication, the horizontal row of red/amber LEDs will illuminate in a red color at a nominal park light intensity.

### Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

#### Listing of claims:

Claims 1-10 (cancelled)

Claim 11 (new)

### **CLAIMS**

The invention claimed is

11. A multi-function illuminating display device for a motor vehicle, including a housing, first illuminating means on said housing to display an inverse function engine power indication (engine power indication), combined with a brake light signal means, and second illuminating means on said housing to display [[a]] left and right directional turn signal means combined with [[a]] left and right park light display means, wherein:

~~where:~~

- a. said housing is equipped with a translucent combination lens and cover over an illuminating surface of said housing;
- ~~a. the multi-function illuminating display device comprises a housing and the housing is equipped with a transparent or opaque translucent combination lens/cover on [[a]] an illuminating surface thereof, side of the multi-function illuminating display device;~~
- b. ~~and where the first illuminating means of the multi-function display device used to display an engine power indication and a brake light include~~ includes a horizontal row of single color red light emitting diodes, (LEDs);
- ~~c. and where the second illuminating means includes a horizontal row of dual-color red/amber LEDs; of the multi-function illuminating display device used to display a left and a right turn signal indication, and a left and a right side park light indication include~~ includes dual-color red/amber LEDs;
- d. ~~and where the engine power indication has [[a]] an associated electronic circuit that provides~~ enables manual adjustment of electrical parameters that define the

Joseph E. Currie (603) 456-2428 17 of 21

- high and low end limits of an engine power indication operating range ~~wherein~~  
within which the red LEDs operate as of the engine power indication operate;
- e. ~~and where~~ the red LEDs ~~of when operating as the engine power indication~~  
~~illumination function of the multi function illuminating display device~~ do not  
 operate above the ~~manually selected and~~ adjusted high end limit, or below the  
~~selected and manually~~ adjusted low end limit, of the engine power indication  
operating range, and are sequentially activated and deactivated in inverse  
proportion to the engine power within the operating range; of the engine power  
indication; illuminating red LEDs;
- f. ~~and where~~ the engine power indication is ~~controlled to a~~ turned off condition by  
 the associated electronic circuit during the input to ~~said~~ the associated electronic  
 circuit of a vehicle brake light ~~electrical~~ signal;
- ~~g. and where~~ a vehicle brake light signal input to the associated electronic circuit is  
 displayed by illuminating ~~[[a]] the~~ horizontal row of red LEDs; ~~that is dedicated~~  
 to the display of both ~~[[a]] an engine power indication and a brake light~~  
 indication;
- h. ~~and where~~ the engine power indication is ~~controlled to a~~ turned off condition by  
 the associated electronic circuit during input to ~~the associated electronic~~ said  
 circuit of ~~[[a]] an~~ electrical signal designating a left or right side vehicle turn;
- i. ~~and where~~ the engine power indication is ~~controlled to an~~ turned off by the  
associated electronic circuit condition during the time a vehicle speed control  
 system is in ~~[[a]] an~~ turned on condition and a hold speed is selected; ~~in use of the~~  
vehicle speed control system;
- j. ~~and where~~ the horizontal row of red ~~[[Leds]] LEDs when operating as~~ ~~[[of]] the~~  
 engine power indication ~~[[,]] display decreasing engine power by illuminating~~  
center of row LEDs at minimal illumination intensity followed by illumination of  
corresponding pairs of successive adjacent LEDs at noticeable increasing levels of  
illumination intensity until left and right end of horizontal row LEDs are  
illuminated at nominal brake light intensity arranged in a horizontal row,  
~~illuminate the LEDs of a left and right end of the row at a nominal brake light~~

- ~~intensity, and illuminate each adjacent pair of LEDs~~ displace toward the center of the horizontal row, at noticeable decreasing levels of illuminating intensity;
- k. ~~and where a activating the left and a right directional turn signal means comprises illuminating is the illumination of the left half [[or]] and the right half,~~ respectively, of [[a]] the horizontal row of dual-colored color re/amber LEDs;
- l. ~~and where the number of illuminated dual-colored red/amber LEDs that illuminate to indicate a signaled left or right turn progressively increases starting with [[from]] the center of the horizontal row of dual-colored red/amber LEDs on the signaled side, to the end of the row of dual-colored LEDs on the signaled side, and then extinguish before continuing the repetitive turn signal sequence and progressing toward the end of the horizontal row of re/amber LEDs corresponding to the direction of the signaled turn, all such LEDs then being extinguished before the sequence is repeated;~~
- m. ~~and where the horizontal row of red/amber dual-colored directional turn signal LEDs when operating as the turn signal means are illuminated illuminated at a nominal brake light intensity; and~~
- n. ~~and where, in the absence of a left or right directional turn signal indication, the horizontal row of dual-colored red/amber LEDs dedicated to combination left and right turn signal indication and to a left and right park light will illuminate in a red color at a nominal park light intensity.~~